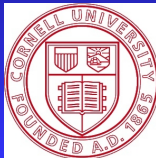


# A Thank You for the Network Legacy of Professor Walter Isard

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# Acknowledgments

*I would like to thank Professor Kieran Donaghy of Cornell University for organizing the Isard Memorial Service and Symposium.*

I last saw Professor Walter Isard at the RSAI North American meetings held in Brooklyn, NY, November 18-22, 2008 and, on April 1, 2009, right here at Cornell University.

*I was so pleasantly surprised when, at age 90, he came to my presentation at Cornell two years ago.*



Because of Professor Isard's incredible intellect, energy and stamina, plus his networking and organizational skills, he created the interdisciplinary, scholarly community of regional science that now spans the globe.

*His leadership and vision gave us courage to break disciplinary boundaries.*

I first became aware of regional science as a doctoral student at Brown University where I loved just walking through the library stacks and browsing through books.

My dissertation advisor at Brown, Professor Stella Dafermos, told me to pursue applications in regional science and because of my passion for networks, from transportation to spatial economic ones, this was a natural connection. It also did not hurt that Professor Martin Beckmann was on my dissertation committee.

*Through regional science, we have had intellectual and (travel) experiences we never could have imagined as students.*



The intellectual legacy of Isard that I, in particular, appreciate was his:

- ▶ Emphasis on *conceptualization and theory*;
- ▶ Appreciation and use of *appropriate mathematical and computational methodologies*, and
- ▶ Understanding of the *importance of a system perspective*.

Just to illustrate Isard's vision and perspicacity in his report, "The Value of the Regional Approach on Economic Analysis," NBER, 1957, he stated:

*[To a regional scientist] the region is a dynamic, social organism possessing an intricate network of internal connections and interrelated via diverse flows to each of an hierarchical array of regional and subregional entities.*

In the same report he noted the value of the regional approach for the study of

- (1) resource use problems,
- (2) transportation problems,
- (3) cyclical problems,
- (4) monetary and fiscal problems.

Specifically, in terms of transportation, he noted that:

*Ideally, transport facilities should be constructed to facilitate interregional trade, to avoid future congestion by meeting demands along the various routes, and perhaps to foster desirable changes in the geographic distribution of industry and population, whether in the direction of further equalization among regions, decreased concentration in urban areas, or increased use of particular, localized mineral or human resources.*

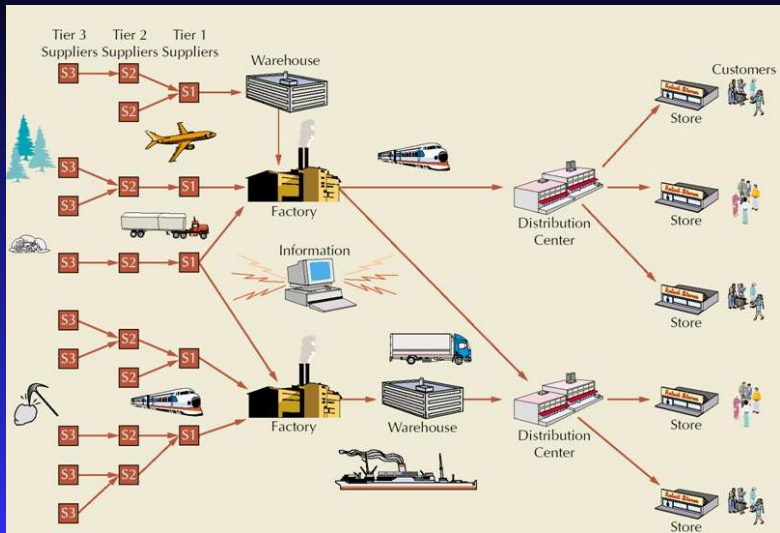
Isard and Ullman presented a co-authored paper at the annual meeting of the Association of American Geographers in 1951, entitled, "Toward a More Analytical Economic Geography: The Study of Flow Phenomena," and noted that flow phenomena had been neglected in both economics and geography.

In the paper, they stated: *The concept of distance input, i.e., the movement of a unit weight over a unit distance, is proposed. In terms of it, the flows of raw materials and finished product in each economic activity can be expressed.*

Isard recognized, 60 years ago, different types of flows, whether commodity ones, migratory ones, or even financial ones!

Today we are formulating, analyzing, and solving a spectrum of *Complex Network* problems, including supply chains with diverse flows.

# A General Supply Chain



# Automotive Supply Chains



# Energy Supply Chains



# Healthcare Supply Chains



# Humanitarian Relief



# Supply Chains in Nature





Isard showed us what could be accomplished, through our regional science network and community, with guts and courage, and if we took risks.

*For that, we will forever, now, and in eternity, be indebted to him.*